

CIA INTERNAL USE ONLY

G-MB - 866/63
16 December 1963

MEMORANDUM FOR: Chief, Defensive Systems Division, OSI

25X1

ATTENTION : [REDACTED]

THRU : Chief, RB/RG/CGS

FROM : Chief, CIA/PID (NPIC)

SUBJECT : Modified "G" Class SSB at Rosta, Photo Study

REFERENCE : Requirement No. C-S13-80,728 (Project No. C 1517-63)

1. In response to Requirement No. C-S13-80,728 (C 1517-63), a photographic analysis was performed on 17 black and white photographic prints (CIA nos. 938218-938227 and 941050-941056) in order to determine the diameter of the missile tube covers and dimensions pertinent to the missile compartment on the modified "G" Class SSB observed in Rosta during [REDACTED]

25X1

2. The basic dimensional characteristics of the modified "G" Class SSB derived from analysis of this photography are tabulated below:

- a. Diameter of missile tube cover-----
- b. Actual waterline beam-----
- c. Maximum width of sail-----
- d. Height from deckline to top of sail over missile tubes-----
- e. Length from after edge of second missile canopy to after edge of sail-----
- f. Length from after edge of second missile canopy to faint line visible across top of sail just forward of snorkel exhaust (see CIA 941056)-----
- g. Length of each missile canopy-----
- h. Over-all length of missile compartment (2 open sections)-----
- i. Distance from leading edge of sail to leading edge of forward missile compartment-----

DECLASS REVIEW by NGA

SECRET

CIA INTERNAL USE ONLY

CIA INTERNAL ONLY

25X1

j. Length (over-all) of sail from leading edge of forward observation port to top after edge of sailabit snokel-----

k. Length (over-all) of sail at deck level-----

3. Dimensions for items (a) through (e) were obtained from CIA 938213 and 938217 using the height of the "W" class DF loop at 1.05 meters and the height of the "W" class conning tower from superstructure deck to conning tower cutwater roof as 3.30 meters. Using the maximum width of the "W" class sail as 5.0 feet (refer figure 1 of CNI 2-60, "W" Class Submarine) a cross-check was attempted on the dimensions obtained for items (b) and (c) in paragraph (2) above. It was determined that the "W" class waterline measurement supplied by OCI could not be applied accurately enough in the referenced photography to enable the use of this figure in obtaining beam measurements for the "G" class modified SSB. (Note: the formula supplied by OCI for the waterline beam of the "W" class submarine, expressed at

of the maximum beam of was believed to

be the actual waterline beam of the "W" when in a "normal" readiness condition.) 25X1

Using 5.05 meters to ratio from the "W" class submarine's beam, the actual waterline beam of the modified "G" class SSB was found to be and the maximum sail width to be Since the "W" class submarine

berthed directly alongside the "G" class SSB appears to be very low in the water (especially when contrasted to the second "W" class submarine on the left) and given the problem of determining where the "normal" waterline should appear on this particular submarine, it was felt that the figure of could not be applied accurately enough to justify its usage in determining the beam measurements of the modified "G" class SSB. Using the maximum sail width measurement of 5.0 feet (sealed from CNI 2-60) the following measurements were obtained: the maximum waterline beam of the "W" class submarine next to the "G" class SSB - meters; the actual waterline beam of the modified "G" class SSB - and the maximum width of the modified "G" class sail - However, use of the firmest ratio data available on the "W" class (1.05 meters for height of DF loop and for height from superstructure deck to conning tower cutwater roof)

indicates that the maximum beam of the inboard "W" class submarine observed in 938213 is instead of 5.0 feet. Therefore, it was felt that the use of the height dimensions from the "W" Class Data Book would yield more accurate beam measurements for the "G" class modified SSB - even though such ratio data was to be applied in a perpendicular aspect within the object plane.

4. Dimensions obtained for items (d) through (k) were derived primarily from CIA 941055 and 941056. Again, the ratio values used were the Data Book measurements obtained for the DF loop and the height from deckline to cutwater roof.

CIA INTERNAL USE ONLY

5. All dimensions derived from this analysis are accurate to within tolerances of plus or minus 5%. It should be noted that the following limitations were inherent with this photography: (1) The measurements were performed on unstable paperback prints; (2) lens (lens) distortion was very noticeable on CIA photo-30300; (3) quality of the subject matter was present on all photographs; and (4) only 12.5% of the data was available.

6. The dimension obtained for item 2 (f) above indicates that there is sufficient space available for a third missile tube in the after part of the sail. However, detailed inspection of good quality photograph (CIA photo-30300) failed to reveal the hinged bottom edge of any possible third missile tube cowling aft of the second open canopy.

7. The general analysis on this study was performed by CIA/PD/TIP (MPIC). The photo analysis and coordination on this project was performed by CIA/PD/GS (MPIC), who may be contacted on [redacted] for any additional information.

8. This memo completes the referenced requirement.



25X1

25X1

- 3 -

SECRET

CIA INTERNAL USE ONLY